Design Assessment Checklists for Ponds/ Wetlands

**Table 1 Deemed to Comply Requirements: Ponds / Wetlands**

|  |  |
| --- | --- |
| **Parameter** | **Deemed to comply requirements** |
| **Pond** | **Wetland** |
| Length to width ratio | Between 3:1 and 5:1 | >3:1 |
| Maximum depth of permanent water | 2m | 2m |
| Maximum side slopes | 1 in 3 (ideally at least 1 in 4 for habitat) | 1 in 3 (ideally at least 1 in 4 for habitat) |
| Width of aquatic bench | >1m | >1m |
| Slope of aquatic bench | 1 in 15 | 1 in 15 |
| Maximum depth of aquatic bench | 450mm | 450mm |
| Width of safety bench  | >3.5m | >3.5m |
| Slope of safety bench | Less than 1 in 15 | Less than 1 in 15 |
| Maximum rise in water level for 1 in 100 year event | 1.5m | 1.5m |
| Wetland mosaic – water depths/areas | N/A | Maximum 20% of water area >1m30% if water area between 0.5m and 1m50% of water area between 0m and 0.5m |
| For the 1 year, 30 min event meet the following requirement:  |  |  |
| Size of permanent pool  | = treatment volume, Vt | = treatment volume, Vt |
| Maximum water velocity | N/A | <0.1m/s |

 **Table 2 Design Assessment Checklist: Pond / Wetland**

|  |  |
| --- | --- |
| **GENERAL INFORMATION** |  |
| Site ID |  |
| Asset ID(s)  |  |
| Pond/wetland location(s) and co-ordinates |  | Drawing Reference(s) |  |
| Date of assessment |  | Specification Reference(s) |  |
| Primary function(s) of pond/wetland | Attenuation / Treatment |

| **Check** | **DtCR**  | **Summary details** (*See Note)* | **Acceptable (Y/N)** | **Comments/ Remedial actions** |
| --- | --- | --- | --- | --- |
| **DIMENSIONS (SuDS Manual Ref.)** |  |  |  |  |
| Length (m) | **** |  |  |  |
| Maximum and minimum width – at permanent water level (m) | **** |  |  |  |
| Length:maximum width ratio | **** |  |  |  |
| Top surface area (m2) |  |  |  |  |
| Side slopes (1 in ?) | **** |  |  |  |
| Depth of permanent water – maximum and minimum (m) | **** |  |  |  |
| Freeboard (m) |  |  |  |  |
| Aquatic bench width and slope (m, 1 in ?) | **** |  |  |  |
| Safety bench width and slope (m, 1 in ?) | **** |  |  |  |
| **INFLOWS (SuDS Manual Ref.)** |  |  |  |  |
| Provide a description of the contributing catchment land use and its size (m2).  |  |  |  |  |
| Does the design include suitable silt interception upstream of system? |  |  |  |  |
| Does the design include: |  |  |  |  |
| * A suitable inlet design?
 |  |  |  |  |
| * Appropriate energy dissipation?
 |  |  |  |  |
| **OUTFALL ARRANGEMENTS (SuDS Manual Ref.)** |  |  |  |  |
| Provide details of any flow control systems, overflow arrangements and limiting discharge rate from pond/wetland |  |  |  |  |
| Is a geomembrane required to prevent infiltration? If yes, give reason. |  |  |  |  |
| Depth to maximum likely groundwater level (m) |  |  |  |  |
| **STORAGE (SuDS Manual Ref.)** |  |  |  |  |
| Design event return period (s) (years) |  |  |  |  |
| Maximum rise in water level (s) for the design event (s) (mm) | **** |  |  |  |
| Maximum water depth(s) at design event conditions (m) |  |  |  |  |
| Maximum design storage volume (s) (m3)  |  |  |  |  |
| Levels around the edge of the pond/wetland appropriate to contain design depths of water? |  |  |  |  |
| **WATER QUALITY TREATMENT (SuDS Manual Ref.)** |  |  |  |  |
| For the 1 year, 30 min event confirm:  |  |  |  |  |
| Permanent pool volume is sufficient for effective treatment Or  | **** |  |  |  |
| Flow velocity is acceptable for effective treatment | **** |  |  |  |
| **LANDSCAPE/BIODIVERSITY (SuDS Manual Ref.)** |  |  |  |  |
| Is there sufficient treatment upstream of the pond to allow design amenity and biodiversity objectives to be delivered? |  |  |  |  |
| Does the variation in permanent water depth have the potential to create bio diverse habitats? |  |  |  |  |
| Does the design of the pond fulfil objectives of availability of different habitats including: * deep water
* marginal
* dry/damp
* other
 |  |  |  |  |
| A planting schedule is provided, showing species and planting preferences. Is the planting demonstrated appropriate for the habitat specified? |  |  |  |  |
| Will plantings be established or rely on natural colonisation? |  |  |  |  |
| Have locally appropriate native plant species been used? |  |  |  |  |
| Indicate the number of different plant species used (not a mono-culture). |  |  |  |  |
| Is the proposed pond/wetland planting appropriate to the location, and with respect to access and maintenance? |  |  |  |  |
| Where relevant, confirm planting design does not adversely impact highway visibility and safety requirements (check with highway authority). |  |  |  |  |
| Is the proposed top soil profile suitable to sustain the proposed plant species? |  |  |  |  |
| **CRITICAL MATERIALS/ PRODUCT SPECIFICATIONS** |  |  |  |  |
| Geomembrane |  |  |  |  |
| Geotextile (non-woven) |  |  |  |  |
| Topsoil |  |  |  |  |
| Other (including proprietary systems) |  |  |  |  |
| **CONSTRUCTABILITY (SuDS Manual Ref.)** |  |  |  |  |
| Are there any identifiable construction risks? If yes, state and confirm acceptable risk management measures are proposed. |  |  |  |  |
| **MAINTAINABILITY (SuDS Manual Ref.)** |  |  |  |  |
| Confirm that access for maintenance is acceptable and summarise details. |  |  |  |  |
| Are there specific features that are likely to pose maintenance difficulties? If yes, identify mitigation measures required. |  |  |  |  |
| **POND/WETLAND DESIGN ACCEPTABILITY (SuDS Manual Ref.)** | **Summary details including any changes required** | **Acceptable (Y/N)** | **Date changes made** |
| Acceptable:Minor changes required: Major changes required / re-design: |  |  |  |

Note: Input range if applied to > 1 system. If there is a DtCR (as indicated) confirm whether or not this is met and provide details of any variations.